

MAINTAINING SKIN INTEGRITY FOR PATIENTS USING URINARY SHEATHS

The daily removal of urinary sheaths can cause trauma and adversely affect penile skin integrity. The authors carried out an evaluation of the use of a silicone medical adhesive remover to support the maintenance of skin integrity and to promote the use of urinary sheaths. The development of a survey tool is outlined in this article, and readers are invited to take part in the ongoing survey as a result of the findings of the pilot.

Nursing covers many varied disciplines, and it is often how we link an experience gained from one discipline to another that leads to a change in practice or a consideration of a different approach.

During a review of skin assessment and management within the Worcestershire Health and Care NHS Trust and the development of a new skin-integrity model, patients using urinary sheaths were identified as potentially at risk of a loss of skin integrity.

The use of a urinary sheath is a proactive strategy for eligible patients, whereby their continence needs are managed with a medical device. As the removal of the urinary sheath is undertaken on a daily basis in line with manufacturer's recommendation, the potential for skin-stripping damage is high for patients with fragile skin.

Within tissue viability and continence nursing, several studies and guidelines have been issued relating to the prevention of moisture lesions, also referred to as 'moisture-associated skin damage' (MASD) (Evans and Stephen-Haynes 2007; All Wales Tissue Viability Nurse Forum and All Wales Continence Forum, 2014; Callaghan and Stephen-Haynes, 2015). This is important, as

MASD has been confused with pressure damage, and the clinical care delivery requires a different approach. MASD is not a government objective, but is still an issue for patients and therefore clinically important (Callaghan and Stephen-Haynes, 2015). Peristomal skin care is challenging, and frequent dressing changes and the application of adhesives require protection and care of the periwound area to prevent damage (Cutting, 2008; Stephen-Haynes, 2013).

The article outlines an audit undertaken in an NHS Trust, which raised the issue of ensuring the maintenance of skin integrity of the penile shaft through the potentially atraumatic removal of the urinary sheath.

The skin

Skin is the largest organ of the body and has several physical and biological functions. The principal role is to act as a protective barrier to the external environment. The skin has a naturally produced lipid layer, which helps to maintain moisture balance, prevents drying and provides an effective waterproof barrier. Normal skin pH is around 5.5, which contributes to the barrier protection by reducing the ability of bacteria to proliferate (Butcher and White, 2005). Skin dryness may occur from excessive washing or use of soaps,

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which are alkaline and alter the pH of the skin, reducing its barrier function (Wysocki, 2000). Therefore, avoiding soap is important (Le Lievre, 2002).

Urine, faeces and other bodily fluids can waterlog, macerate and corrode the stratum corneum (the outer layer of the epidermis). This can lead to weakening and breakdown of the skin, which may become sore and painful (International Review, 2010). As the skin ages, the epidermis gradually thins and the papillae that lie between the epidermis and the dermis become flattened, reducing the skin's resistance to shearing forces and its ability to perform many of its essential functions (Wysocki, 2000; Voegell, 2010).

Skin stripping and integrity

When adhesive products are removed, loosely bound epidermal cells are also pulled away. Repeated use of adhesive products can strip away varying amounts of the stratum corneum (Dykes et al, 2001). The ensuing inflammatory skin reaction leads to skin breakdown, which changes the skin's barrier function.

Adhesives spread over the skin's surface, into crevices and surface detail. The effectiveness of an adhesive is dependant on its chemistry, risk of irritation, allergic reaction to the materials, minor inclusions in the adhesive, which can cause contact dermatitis, and the restriction of moisture transpiration by the product (Berry et al, 2007).

Urinary incontinence

Urinary incontinence affects an estimated 3 million to 6 million people in the UK (Irwin et al, 2006). The incidence increases with age, and Bale et al (2004) reported that a high proportion of residents in nursing homes have incontinence. Urinary incontinence in the general population affects 31% of older women and 23% of older men, with the incidence of faecal incontinence also rising with age and affecting

about 12% of older people (Bale et al, 2004; Goode et al, 2005). Incontinence is not restricted to older people and can affect anyone at any age.

Audit

The original evaluation undertaken within the Worcestershire Health and Care Trust comprised two parts: a focus group and a skin-integrity evaluation. The focus group ($n=8$) evaluated the benefits associated with the formulary listed silicone medical adhesive remover (SMAR) as part of the routine sheath changing process to prevent skin stripping.

A skin-integrity evaluation of SMAR used a questionnaire to examine the care of patients who currently use a urinary sheath. The questionnaire was developed in conjunction with tissue viability and continence specialist nurses. The objective was to consider the following:

- ▶▶ Ease of application
- ▶▶ Ease of removal
- ▶▶ Improvement of skin condition
- ▶▶ Improved patient cooperation when changing the urinary sheath
- ▶▶ Speed of urinary sheath change
- ▶▶ A more comfortable experience for the patient
- ▶▶ Skin integrity maintained by reduction of friction on removal of the sheath.

The SMAR chosen for the evaluation was Appeel® Sterile Spray (Clinimed), because it was already on the local formulary and in use within the Trust. SMARs were not previously used for sheath changes across the Trust. A baseline skin assessment was completed and documented before introducing the SMAR. After five days of using a SMAR at daily sheath change, a further penile skin assessment, including skin condition and colour, was completed and documented. The evaluation responses were anonymised and summarised and it was concluded that SMARs are useful. They are now used in the Trust for sheath changes.

Survey

A survey was developed and approved by the Trust's clinical governance for use within the Trust and staff were invited to complete an online survey. Patients of local nursing homes who were using urinary sheaths were identified and there were two screening questions:

1. Do you have patients who are currently using or could be suitable for urinary sheaths to maintain their skin integrity and continence needs?
2. Do you routinely consider the skin integrity of the penile shaft as part of the removal technique for the urinary sheath?

Following the presentation of the initial survey results at the *Wounds UK* 2014 conference (Stephen-Haynes et al, 2014), this project has been extended to seek a wider survey response. This forms the second stage of the authors' project to review the maintenance of skin integrity after the removal of urinary sheaths. The survey has been designed to provide the authors with a wider evidence base of current practice and all results are anonymous. The questions are shown in *Table 1*. Readers are invited to complete the survey and can access it at: <https://www.surveymonkey.com/s/GZ79Z3J>. The closing date for the survey is September 30, 2015.

Conclusion

This article outlines the impact of moisture on the skin with consideration of the periwound and peristomal skin. The daily removal of urinary sheaths can cause skin trauma, and the authors carried out an evaluation of the use of a SMAR to support the maintenance of skin integrity and to promote the use of urinary sheaths. The development of a survey tool is outlined, and readers are invited to take part in this survey as a result of the findings of the pilot. **WE**

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Table 3. Survey questions.

Q1	Do you currently nurse patients who use urinary sheaths?
Q2	Within the past month, how many patients have you nursed who use a urinary sheath?
Q3	Of these patients, how many patients experienced pain or discomfort upon the removal of the urinary sheath?
Q4	Over the last 6 months, how many patients have experienced skin trauma following the removal of a urinary sheath?
Q5	What was the outcome of this skin trauma? a. Urinary sheath discontinued and alternative methods of continence aids employed b. An indwelling catheter was inserted until the skin healed c. Barrier cream applied prior to application of a urinary sheath d. A silicone medical adhesive remover was introduced as part of the revised removal technique e. No change of nursing intervention.
Q6	If a patient suffered from skin trauma, skin stripping or loss of skin integrity, did you refer the patient to a specialist nurse in either tissue viability or continence?
Q7	What is your preferred removal technique for urinary sheaths? a. Ask the patient to remove it themselves b. Ask the carer to remove the urinary sheath during washing c. Gently remove the urinary sheath using a peel back technique d. Apply soapy tepid water as part of the 'peel back' technique e. Other.
Q8	Have you previously considered the potential loss of skin integrity due to the removal of urinary sheaths?
Q9	Do you routinely use a silicone medical adhesive remover to aid the removal of the urinary sheath?
Q10	Will you consider the use of a silicone medical adhesive remover to aid the removal of a urinary sheath, for patients with a history of skin stripping or with fragile skin in the future?

Available at: <http://www.wounds-uk.com/supplements/awtvnf-prevention-and-management-of-moisture-lesions> (accessed 08.06.15)

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